

R. A. Fessenden, Pioneer in Radio

FESSENDEN: Builder of Tomorrows. By Helen M. Fessenden. Illustrated. 362 pp. New York: Coward-McCann, Inc. \$3.

By EDWARD FRANK ALLEN

WITH the services of a capable publicity representative and an efficient business manager, Reginald Fessenden would probably have been as well-known a

name to the general public as Marconi, Lee De Forrest, Nikola Tesla or Michael Pupin. In spite of a distinguished list of achievements in scientific investigation and invention, the more spectacular of which concerned the development of radio communications, he did not make his name famous in the accepted sense of that term. Nor did he reap rewards commensurate with what he gave to the world.

He died eight years ago, and now Mrs. Fessenden has written the story of his life and his accomplishments. She has brought

to her task an extremely intelligent appreciation of the scientific work that her husband did as well as of his personality and character, and the result is a valuable and entertaining biography.

Doubtless Fessenden never intended to apotheosize himself

when he said, "The true and only natural resources of a nation are its men"; but the author says that this was his fundamental article of faith. And of faith he had plenty; faith in himself and in his fellow-men. Too much of the latter, perhaps, for he was left holding the bag when his inventions were financed. Mrs. Fessenden has gone into this phase of her husband's career at some length and the correspondence cited will be of interest to inventors.

The personality of the man and the episodes of his career give the book its greatest interest. At the age of 21 he became chief chemist for Thomas Edison, and in spite of offers of positions at higher salaries, he remained there for two years because he regarded the experience as more valuable than money. A letter is quoted in which he pays tribute to Edison's genius. When asked the questions: "Is Edison really a good inventor?" and "Are not his inventions really due to his assistants?" he answered vigorously. The substance of his reply was that there was only one figure in history that stands in the same rank as an inventor, and that was Archimedes. Edison, he said, bore a similar relation to his assistants as the organist to the man who pumps the organ.

Fessenden's versatility in scientific fields was enormous. He had more than five hundred patents issued to him, preponderantly in the transmission of light, sound and electrical waves, but his activities even included important archaeological researches in connection with the lost civilization of the Caucasus Isthmus. H. G. Wells, in his "Outline of History," refers to his "very careful study

of these Atlantis stories" and cites Fessenden's conclusion that "they refer not to a lost land in the Atlantic but to what is an altogether more probable thing, a once much more important civilization in the region of the Caucasus."

His consuming curiosity, coupled with a sound scientific background, led him to develop a new system of wireless transmission entirely distinct from and based on a different principle from that of Lodge, Marconi and others. It was due to his efforts that the first two-way transatlantic wireless telegraphic service was effected in 1906 between Brant Rock, Mass., and Machrihanish, Scotland. Another hitherto unparalleled achievement of thirty years ago was his transmission of wireless telegraphic messages over land a distance of 1,600 miles. Ten years before this he had invented the wireless telephone and tested it in a crude form in his laboratory at Cobb Island, Md.

The credit for the first radio broadcast must also go to Fessenden, for on Christmas Eve and New Year's Eve of 1906 he broadcast a program that was heard by ships as far south as Guantanamo Bay. In addition he invented the fathometer, by which ships make soundings by an electric echo from the floor of the sea, the wireless compass, and other submarine signaling devices. He also originated the turboelectric drive for battleships.

All this information is very pleasantly related in Mrs. Fessenden's book. Her understanding of the scientific aspects of her husband's career is apparent throughout, but she does not let this overshadow his engaging personality, nor her own.



To EAT

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From the Frontispiece for "Fessenden."